

U.S. Fish & Wildlife Service

Watchable Wildlife

Bitter Lake National Wildlife Refuge

Welcome

Bitter Lake National Wildlife Refuge is one of New Mexico's most important sanctuaries and breeding grounds for migratory birds and other wildlife. Established in 1937, the 24,500-acre refuge is strategically located along the Pecos River where the Chihuahuan Desert meets the Great Plains. The convergence of these vastly different terrains has produced a diverse range of habitats, providing a home to a rich array of plant and animal life, including a number of rare species.

Bitter Lake NWR is best known for its spectacular variety of birds, particularly the large migrations of ducks, geese, and cranes during the fall and winter months. Many of these creatures are drawn by the refuge's wetlands, which offer an abundance of food as well as ideal nesting habitat for some species. Other animals also thrive on the refuge, including everything from least shrews to barking frogs to Pecos pupfish.

An obvious hardship for fish living in the desert is the scarcity of water. Yet Bitter Lake NWR provides important wetland habitat to a number of native fish, including several that are quite rare. Most native fish found on the refuge are small and able to survive extreme environmental conditions such as high temperatures, intense sunlight, high mineral content of water, and low dissolved oxygen. They also have the unique ability to adjust to sudden changes in these conditions. Numerous isolated gypsum sinkholes on the refuge provide a natural and secure environment for native fish. In addition, the native fish community in Bitter Creek is more diverse than any other habitat area on the refuge. Fish manage-ment at Bitter Lake NWR is focused on the protection, maintenance, and enhancement of native species and their habitats.

Fish

The following species are listed by family and taxa from *The Fishes of New Mexico*, by J. E. Sublette, M. D. Hatch and M. Sublette. UNM Press. 1990.

Family Lepisosteidae – Gars

 ${\bf Longnose~gar} \quad \textit{Lepisosteus osseus}$

Family Clupeidae - Shads

 ${\it Gizzard shad} \quad {\it Dorosoma~cepedianum}$

$\begin{tabular}{ll} Family Characidae & --- Characins \\ \end{tabular}$

Mexican tetra Astyanax mexicanus

Family Cyprinidae - Carps and Minnows

Red shiner Cyprinella lutrensis Common carp Cyprinus carpio

Family Catostomidae - Suckers

River carpsucker Carpoides carpio

Family Ictaluridae - Catfishes

Channel catfish Ictalurus punctatus

Family Cyprinodontidae - Pupfish

Pecos pupfish Cyprinodon pecosensis

Family Fundulidae - Killifishes

Plains killifish Fundulus zebrinus Rainwater killifish Lucania parva

Family Poeciliidae - Livebearers

Mosquitofish Gambusia affinis Pecos gambusia Gambusia nobilis

Family Atherinidae - Silversides

Inland silversides Menidia beryllina

Family Centrarchidae - Sunfishes

Green sunfish Lepomis cyanellus
White crappie Pomoxis annularis

Family Percidae - Perches

 $\begin{array}{ll} {\it Walleye} & {\it Stizostedion~vitreum} \\ {\it Greenthroat~darter} & {\it Etheostoma~lepidum} \end{array}$

Reptiles and Amphibians

The unique habitat created at the transition between the Chihuahuan Desert, the shortgrass prairie, and the Pecos River Valley, together with the area's distinctive geology, supports a diversity of amphibians and reptiles. Due to the warm, semi-arid climate, many reptiles and amphibians on the refuge have activity periods closely tied to the summer rainy season. Eroding cliffs, gypsum soils, and small mammal burrows provide habitat for many of the refuge's amphibians and reptiles, which have developed unique adaptations for survival in this desert environment. For example, barking frogs lay eggs that hatch directly into fully-formed froglets, eliminating the more typical amphibian-tadpole stage. Spadefoot toads have a horn-like "spade" on their hind feet to aid in digging deeply into the soil, where they stay for most of the year waiting for more favorable rainy conditions.

The species are listed in accordance with *The Amphibians and Reptiles of New Mexico*, by W.G.Degenhardt, C.W. Painter, and A.H. Price. UNM Press. 1996.

Amphibians

Family Ambystomatidae – Mole Salamanders

Tiger salamander Ambystoma tigrinum

Family Leptodactylidae - Tropical Frogs

Eastern barking frog Eleutherodactylus augusti latrans

Family Pelobatidae - Spadefoot Toads

Couch's spadefoot toad Scaphiopus couchii New Mexico spadefoot toad Spea multiplicata Plains spadefoot toad Spea bombifrons

Family Bufonidae - Toads

Woodhouse's toad $Bufo\ woodhousii$ Red-spotted toad $Bufo\ punctatus$ Great Plains toad $Bufo\ cognatus$ Texas toad $Bufo\ speciosus$

Western green toad Bufo debilis insidior

Family Hylidae - Treefrogs

Northern cricket frog Acris crepitans blanchardi

Family Ranidae - True Frogs

Plains leopard frog Rana blairi

Family Chelydridae - Snapping Turtles

Common snapping turtle Chelydra serpentina

Family Kinosternidae - Mud Turtles

Yellow mud turtle Kinosternon flavescens

Family Emydidae - Box and Water Turtles

Western painted turtle Chrysemys picta bellii
Red-eared slider Trachemys scripta elegans
Western river cooter Pseudemys gorzugi
Ornate box turtle Terravene ornata ornata

Family Trionychidae - Softshell Turtles

Spiny softshell turtle Trionyx spiniferus

Reptiles

Family Phrynosomatidae - Iquanid Lizards

${\bf Family\ Crotaphytidae-Collared\ and\ Leopard\ Lizards}$

 $\begin{array}{ll} \hbox{Collared lizard} & \textit{Crotaphytus collaris} \\ \hbox{Leopard lizard} & \textit{Gambelia wislizenii} \end{array}$

Family Scincidae - Skinks

 $\begin{array}{ll} {\rm Many-lined\ skink} & {\it Eumeces\ multivirgatus} \\ {\it epipleurotus} \end{array}$

Great Plains skink Eumeces obsoletus

Family Teiidae - Whiptail Lizards

Little striped whiptail lizard Cnemidophorus inornatus

Chihuahuan spotted whiptail Cnemidophorus exsanguis

Western whiptail lizard $Cnemidophorus\ tigris$ Checkered whiptail lizard Cnemidophorus

grahamii (tesselatus)

Family Leptotyphlopidae - Blind Snakes

Texas blind snake Leptotyphlops dulcis

Family Colubridae - Colubrid Snakes

Ringneck snake Diadophis punctatus
Western hognose snake Heterodon nasicus
Yellowbelly racer Coluber constrictor
Coachwhip Masticophis flagellum
Great Plains rat snake Elaphe guttata
Glossy snake Arizona elegans
Bullsnake Pituophis melanoleucus
Desert kingsnake Lampropeltis getula splendida
New Mexico milk snake Lampropeltis
triangulum celaenops
Long-nosed snake Rhinocheilus lecontei

Long-nosed snake Rhinocheilus lecontei
Checkered garter snake Thamnophis marcianus
Arid land ribbon snake Thamnophis proximus
diabolicus

Western hooknose snake $Gyalopion\ canum$ Plains black-headed snake $Tantilla\ nigriceps$ Night snake $Hypsiglena\ torquata$

Family Viperidae - Rattlesnakes

Desert massasauga Sistrurus catenatus
Western diamondback rattlesnake Crotalus atrox
Prairie rattlesnake Crotalus viridis

Mammals

Most of the mammals found at the refuge are nocturnal (active at night) or crepuscular (active at dusk and dawn) and are rarely seen. They occur in a variety of habitats on the refuge including wooded riparian areas, rocky bluffs, grasslands, and wetlands. With the exception of bats, all mammals on the refuge are year-round residents, and are either active throughout the year or spend a portion of their life in hibernation during winter months or in estivation (dormancy) during summer months. Most of the bat species on the refuge occur seasonally as they migrate through the Pecos River Valley, similar to some species of birds. Four mammal species are not native to the area. The fox squirrel, house mouse, and feral domestic swine are currently found on the refuge. Nutria, which escaped from captivity, established a colony that persisted on the refuge through the 1940's. There have been no sightings of this species since the 1950's. The refuge is within the historic range of the black-footed ferret. An unconfirmed sighting of this native species was reported on the refuge in 1979.

Mammals are listed in accordance with the revised *Checklist of the North American Mammals North of Mexico* by J.K. Jones, Jr., R.S. Hoffman, D.W. Rice, C. Jones, R. J. Baker, and M.D. Engstrom. 1991.

 denotes either an unconfirmed report of a species or a species that may occur but has not been documented.

Family Soricidae - Shrews

 $\begin{array}{ll} \text{Least shrew} & \textit{Cryptotis parva} \\ \text{Desert shrew} & \textit{Notiosorex crawfordi} \end{array}$

Family Vespertilionidae $\,-\,$ Plain-nosed Bats

- ullet Little brown myotis $Myotis\ lucifugus$
- ullet Yuma myotis $Myotis\ yumanensis$ Cave myotis $Myotis\ velifer$
- Long-eared myotis Myotis evotis

- Fringed myotis Myotis thysanodes
- Long-legged myotis Myotis volans
- California myotis Myotis californicus
- Small-footed myotis Myotis ciliolabrum Silver-haired bat Lasionycteris noctivagans
- Western pipistrelle Pipistrellus hesperus
- Big brown bat Eptesicus fuscus
- Red bat Lasiurus borealis
- Hoary bat Lasiurus cinereus
- •Spotted bat Euderma maculatum

 $\begin{array}{ll} \hbox{Townsend's big-eared bat} & \textit{Plecotus townsendii} \\ \hbox{Pallid bat} & \textit{Antrozous pallidus} \end{array}$

Family Molossidae - Free-tailed Bats

Brazilian free-tailed bat Tadarida brasiliensis
•Big free-tailed bat Nyctinomops macrotis

Family Leporidae - Rabbits and Hares

Desert cottontail Sylvilagus auduboni Black-tailed jackrabbit Lepus californicus

Family Sciuridae - Squirrels

 $\begin{tabular}{ll} Thirteen-lined ground squirrel & Spermophilus \\ tridecemlineatus & \\ \end{tabular}$

 $\begin{array}{ll} \bullet \mbox{Mexican ground squirrel} & Spermophilus \\ mexicanus & \end{array}$

 $\begin{array}{lll} {\rm Spotted\ ground\ squirrel} & Spermophilus\ spilosoma \\ {\rm Black-tailed\ prairie\ dog} & Cynomys\ ludovicianus \\ {\rm Fox\ squirrel} & Sciurus\ niger \end{array}$

Family Geomyidae - Pocket Gophers

 $\begin{array}{ll} \mbox{Plains pocket gopher} & \mbox{\it Geomys bursarius} \\ \mbox{Yellow-faced pocket gopher} & \mbox{\it Cratogeomys} \\ \mbox{\it castanops} & \end{array}$

Family Heteromyidae - Pocket Mice and Kangaroo Rats

Plains pocket mouse Perognathus flavescens
Silky pocket mouse Perognathus flavus

- Merriam's pocket mouse Perognathus merriami Hispid pocket mouse Chaetodipus hispidus Ord's kangaroo rat Dipodomys ordii
- $\begin{array}{ll} \bullet \mbox{Banner-tailed kangaroo rat} & Dipodomys \\ spectabilis & \end{array}$

Merriam's kangaroo rat Dipodomys merriami

Family Castoridae - Beaver

Beaver Castor canadensis

Family Cricetidae - Rats and Mice

 $\begin{array}{ll} \bullet \mbox{Plains harvest mouse} & Reithrodon to mys \\ montanus & \end{array}$

 $\begin{tabular}{ll} We stern harvest mouse & Reithrodon to mys \\ megalot is & \\ \end{tabular}$

 $\begin{array}{ll} \hbox{Deer mouse} & \textit{Peromyscus maniculatus} \\ \hbox{White-footed mouse} & \textit{Peromyscus leucopus} \end{array}$

Brush mouse Peromyscus teucopus
 Brush mouse Peromyscus boylii

Northern grasshopper mouse Onychomy

Northern grasshopper mouse Onychomys leucogaster

 ${\it Mearn's grasshopper mouse} \qquad {\it Onychomys} \\ {\it arenicola}$

 $\begin{tabular}{ll} Hispid cotton rat & Sigmodon \ hispidus \\ Southern plains woodrat & Neotoma \ micropus \\ White-throated woodrat & Neotoma \ albigula \\ Muskrat & Ondatra \ zibethicus \\ \end{tabular}$

Family Muridae - Old World Rats and Mice

House mouse Mus musculus

$\label{eq:Family Erethizontidae} \textbf{--Porcupines}$

 ${\bf Porcupine} \quad \textit{Erethizon dorsatum}$

Family Capramyidae - Nutria

Nutria Myocastor coypus

Family Canidae - Coyotes and Foxes

 ${\bf Coyote} \quad {\it Canis\ latrans}$

•Swift fox Vulpes velox velox Kit fox Vulpes velox macrotis

Gray fox Urocyon cinereoargenteus

Family Procyonidae - Raccoon and Ringtail

Ringtail Bassariscus astutus Raccoon Procyon lotor

Family Mustelidae-Weasel, Badger, Skunks, & Otter

Long-tailed weasel Mustela frenata
Black-footed ferret Mustela nigripes

Badger Taxidea taxus

• Western spotted skunk Spilogale gracilis Striped skunk Mephitis mephitis

• Hog-nosed skunk Conepatus mesoleucus River otter Lutra canadensis

Family Felidae - Cats

 ${\bf Bobcat} \quad \textit{Lynx rufus}$

Family Suidae - Swine

Feral domestic swine Sus scrofa

Family Cervidae - Deer

Mule deer Odocoileus hemionus White-tailed deer Odocoileus virginianus

Family Antilocapridae - Pronghorn

Pronghorn Antilocapra americana

Rirde

Bitter Lake NWR contains a mix of natural wetlands, riparian corridors, cropland, impoundments, and desert uplands, providing a variety of habitats for a large diversity of birds, including both eastern and western species. Bird activity continues yearround on the refuge, offering outstanding opportunitites for bird watchers. Shelter belts and trees at refuge headquarters serve as hot spots for migrating songbirds, primarily in early May. Spring and late summer are marked by marsh-bird and shorebird migrations. Fall brings raptor migrations, followed by waterfowl concentrations in winter and early spring. A number of birds nest on the refuge each summer, including unique species such as the snowy plover and the interior least tern.

This list contains 350 species that have been recorded on the refuge through May 1997.

Symbols used in this list are defined as follows:

 $\begin{array}{lll} \text{Sp} & \text{Spring} & \text{March - May} \\ \text{Su} & \text{Summer} & \text{June - July} \\ \text{F} & \text{Fall} & \text{August - November} \end{array}$

F Fall August - November W Winter December - February

A Abundant

A common species that is very numerous.

C Common

Certain to be seen in suitable habitats.

U Uncommon

Present, not certain to be seen.

O Occasional

Seen few times during the season.

R Rare

Seen at intervals of 2 to 5 years.

X Accidental

Has been seen only once or twice.

* Nesting Species

Common Name Loons	Sp Su	F	W
Red-throated Loon		X	
Pacific Loon		\mathbf{X}	\mathbf{X}
Common Loon	${ m R}$	\mathbf{R}	O

Common Name Grebes	Sp	Su	F	w	Common Name Hawks, Kites, Eagles and Allies	Sp	Su	F	w	Common Name Sandpipers, Phalaropes, and Allic		Su	F	W
*Pied-billed Grebe	С	U	\mathbf{C}	С	Osprey	0	R	O	R	Long-billed Dowitcher	es, G C	C	C	R
Horned Grebe	R		R	R	White-tailed Kite	R	R			Common Snipe	Ü	R	Ü	U
Red-necked Grebe				X	*Mississippi Kite	U	O	\mathbf{R}		Wilson's Phalarope	A	U	U	
Eared Grebe	\mathbf{C}	\mathbf{R}	\mathbf{C}	U	Bald Eagle			\mathbf{R}	O	Red-necked Phalarope	O		O	
Western Grebe	O	\mathbf{R}	O	U	*Northern Harrier	С	U	C	C	Jaegers, Gulls, and Terns				
Clark's Grebe		\mathbf{R}	\mathbf{R}	R	Sharp-shinned Hawk	U	R	U	0	Pomarine Jaeger	X	37	37	\mathbf{X}
Pelicans	a	0	C	D	Cooper's Hawk	U	O	U	U	Long-tailed Jaeger		X	X	
American White Pelican Brown Pelican	C X	O X	\mathbf{C} \mathbf{X}	R	Northern Goshawk *Harris' Hawk	R R	R	R	R R	Laughing Gull Franklin's Gull	U	R R	U	
Cormorants	Λ	Λ	Λ		*Swainson's Hawk	U	0	к U	К	Bonaparte's Gull	R	К	R	R
Double-crested Cormorant	U	R	U	R	Red-tailed Hawk	C	Ö	C	\mathbf{C}	Heermann's Gull	X		X	10
Neotropic Cormorant	$^{\circ}_{ m R}$	R	R		Ferruginous Hawk	Ü	R	Ü	Ü	Ring-billed Gull	C	O	C	\mathbf{C}
Frigatebirds					Rough-legged Hawk	O		U	U	Herring Gull	\mathbf{R}		0	0
Magnificent Frigatebird			\mathbf{X}		Golden Eagle	O		O	0	Sabine's Gull			\mathbf{R}	
Herons, Bitterns, and Allies					Caracaras and Falcons					Caspian Tern	\mathbf{R}		\mathbf{R}	
*American Bittern	U	U	U	U	Crested Caracara				X	Common Tern	\mathbf{R}		\mathbf{R}	
*Least Bittern	R	R	R	~	*American Kestrel	C	\mathbf{C}	C	C	*Forster's Tern	U	U	U	
Great Blue Heron	С	U	C	С	Merlin	0	ъ	0	0	*Least Tern	U	U	0	
Great Egret	0	O C	O C	O R	Peregrine Falcon Prairie Falcon	O U	R O	O U	R U	Black Tern	С	U	U	
*Snowy Egret Little Blue Heron	C R	0	R	ĸ	Pheasants and Old World Quail	U	U	U	U	Pigeons and Doves Rock Dove	R	R	R	R
Tricolored Heron	R	R	R		*Ring-necked Pheasant	С	С	\mathbf{C}	\mathbf{C}	Band-tailed Pigeon	11	X	11	11
Reddish Egret	10	X	X		Lesser Prairie-Chicken	X	O	X	X	White-winged Dove	0	0	\mathbf{R}	\mathbf{R}
Cattle Egret	O	0	R	R	New World Quail					*Mourning Dove	Ā	Ā	A	C
*Green Heron	U	C	U	R	*Scaled Quail	U	U	U	U	Inca Dove	\mathbf{R}	\mathbf{R}	\mathbf{R}	R
*Black-crowned Night-Heron	\mathbf{C}	\mathbf{C}	U	U	*Northern Bobwhite	U	U	U	U	Cuckoo, Roadrunner, and Allies				
Yellow-crowned Night-Heron	\mathbf{R}	\mathbf{R}	\mathbf{R}		Rails, Gallinules, and Coots					*Yellow-billed Cuckoo	O	O	\mathbf{R}	
Ibises and Spoonbill					Yellow Rail			X	X	*Greater Roadrunner	\mathbf{C}	\mathbf{C}	\mathbf{C}	\mathbf{C}
White Ibis			\mathbf{X}	X	*Virginia Rail	U	U	U	U	Groove-billed Ani	\mathbf{R}	\mathbf{R}	\mathbf{R}	
White-faced Ibis	U	O	U	R	*Sora	U	0	U	U	Barn Owls				
Roseate Spoonbill			X		Purple Gallinule	X	X			*Barn Owl	U	U	U	U
New World Vultures	С	C	C	v	*Common Moorhen *American Coot	R A	R C	٨	٨	Typical Owls Western Screech-Owl	D	D	R	D
*Turkey Vulture Swans, Geese, & Ducks	C	С	С	X	Cranes	А	C	A	A	*Great Horned Owl	R C	$_{\mathrm{C}}^{\mathrm{R}}$	С	R C
Black-bellied Whistling-Duck				X	Sandhill Crane	\mathbf{C}		A	A	*Burrowing Owl	U	U	U	Ö
Fulvous Whistling-Duck	\mathbf{R}	\mathbf{R}	\mathbf{R}	21	Common Crane	X		11	11	Long-eared Owl	R	C	R	R
Greater White-fronted Goose	O		O	0	Lapwings and Plovers					Short-eared Owl	R		R	R
Snow Goose	\mathbf{C}	\mathbf{R}	A	A	Black-bellied Plover	O	\mathbf{R}	O	0	Northern Saw-whet Owl	\mathbf{R}			\mathbf{R}
Ross's Goose	\mathbf{C}	\mathbf{R}	A	A	American Golden-Plover	\mathbf{R}		\mathbf{R}		Goatsuckers				
*Canada Goose	\mathbf{C}	U	\mathbf{C}	С	*Snowy Plover	\mathbf{C}	A	$^{\rm C}$		Lesser Nighthawk	O	O	O	
Tundra Swan		_	R	0	Semipalmated Plover	O	O	0		*Common Nighthawk	С	C	С	
*Wood Duck	0	R	0	0	*Killdeer	С	\mathbf{C}	0		Common Poorwill	U	0	U	
*Gadwall	C X	U	${ m C} \ { m X}$	C X	Mountain Plover Stilts and Avocets	R		R		Swifts Chimney Cyrift	R	R		
Eurasian Wigeon *American Wigeon	A	U	C	A A	*Black-necked Stilt	\mathbf{C}	С	U		Chimney Swift White-throated Swift	X	п		
*Mallard	C	C	A	A	*American Avocet	C	C	C	\mathbf{R}	Hummingbirds	Λ			
*Blue-winged Teal	Č	Ö	C	0	Sandpipers, Phalaropes, and Alli		Ü	Ü		*Black-chinned Hummingbird	U	U	U	
*Cinnamon Teal	C	C	\mathbf{C}	0	Greater Yellowlegs	С	U	\mathbf{C}	U	Calliope Hummingbird		R		
*Northern Shoveler	A	U	A	A	Lesser Yellowlegs	\mathbf{C}	\mathbf{C}	\mathbf{C}	\mathbf{R}	Broad-tailed Hummingbird	O	O	O	
*Northern Pintail	A	\mathbf{R}	A	C	Solitary Sandpiper	O	O	O		Rufous Hummingbird		U	U	
Garganey			\mathbf{X}		Willet	U	O	O		Kingfishers				
Green-winged Teal	С	U	C	U	Spotted Sandpiper	0	O	0	\mathbf{R}	Belted Kingfisher	U	О	U	U
*Canvasback	U	R	С	С	Upland Sandpiper	R		U		Woodpeckers and Allies	ъ			ъ
Redhead Ring-necked Duck	C 0	0	C U	C U	Whimbrel	R	0	U	R	Lewis' Woodpecker	R O	0	0	R R
Greater Scaup	U		U	X	Long-billed Curlew Hudsonian Godwit	U R	O R	R	n	*Red-headed Woodpecker Acorn Woodpecker	U	U	R	n
*Lesser Scaup	U	R	\mathbf{C}	C	Marbled Godwit	0	R	0		Red-bellied Woodpecker			11	X
Harlequin Duck	C	10	0	X	Ruddy Turnstone	X	10	X		Yellow-bellied Sapsucker	R		\mathbf{R}	R
Surf Scoter	\mathbf{R}		\mathbf{R}	R	Red Knot		\mathbf{R}	R		Red-naped Sapsucker	U		U	0
White-winged Scoter	R		R	R	Sanderling	O	0	0		*Ladder-backed Woodpecker	U	U	U	U
Long-tailed Duck	\mathbf{R}		\mathbf{R}	R	Semipalmated Sandpiper	O	O	O		Downy Woodpecker	O		O	O
Bufflehead	\mathbf{C}	\mathbf{R}	\mathbf{C}	\mathbf{C}	Western Sandpiper	\mathbf{C}	\mathbf{C}	\mathbf{C}	0	Hairy Woodpecker			\mathbf{R}	\mathbf{R}
Common Goldeneye	O	\mathbf{R}	U	U	Least Sandpiper	C	\mathbf{C}	\mathbf{C}	O	Northern Flicker	U	\mathbf{R}	\mathbf{C}	\mathbf{C}
Barrow's Goldeneye				R	White-rumped Sandpiper	O	O	\mathbf{R}		Tyrant Flycatchers				
Hooded Merganser	R	X	O	0	Baird's Sandpiper	U	U	U		Olive-sided Flycatcher	0	0	O	
Common Merganser	U	R	U	С	Pectoral Sandpiper	R	R	R	D	Western Wood-Pewee	U	U	U	
Red-breasted Merganser	0	тт	0	O	Dunlin Curley Sandrinan	0 v	R	O	R	Willow Flycatcher	R		R	
*Ruddy Duck	С	U	С	A	Curlew Sandpiper	X	TT	TT		Gray Flycatcher	R			
					Stilt Sandpiper Buff-breasted Sandpiper	U	U X	U		Dusky Flycatcher Cordilleran Flycatcher	R R	R		
					Short-billed Dowitcher	R	R	R		*Black Phoebe	U	U	U	R
					SHOTE SHIPSE DOWNSHIPSE		10	10			J	J	J	10

Common Name Tyrant Flycatchers, continued	Sp	Su	F	W	Common Name Mockingbirds and Thrashers	Sp	Su	F	W	Common Name Sparrows, contintued	Sp	Su	F	W
Eastern Phoebe	\mathbf{R}		\mathbf{R}	\mathbf{R}	Gray Catbird	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	Le Conte's Sparrow			\mathbf{R}	\mathbf{R}
*Say's Phoebe	U	U	U	U	*Northern Mockingbird	\mathbf{C}	\mathbf{C}	\mathbf{C}	O	Fox Sparrow			\mathbf{R}	O
*Vermilion Flycatcher	O	O	O	${ m R}$	Sage Thrasher	U		U	\mathbf{R}	Song Sparrow	\mathbf{C}		\mathbf{C}	\mathbf{C}
*Ash-throated Flycatcher	U	U	U		Brown Thrasher	O	\mathbf{R}	\mathbf{R}	\mathbf{R}	Lincoln's Sparrow	U		U	O
Great Crested Flycatcher			X		Bendire's Thrasher		X	X		Swamp Sparrow	U		U	U
Cassin's Kingbird	O		O		*Curve-billed Thrasher	U	U	U	U	White-throated Sparrow				\mathbf{R}
*Western Kingbird	$^{\rm C}$	\mathbf{C}	$^{\rm C}$		Crissal Thrasher	O	O	O	O	Harris' Sparrow	\mathbf{R}			\mathbf{R}
Eastern Kingbird	\mathbf{R}	\mathbf{R}	\mathbf{R}		Starlings					White-crowned Sparrow	A	O	A	A
Scissor-tailed Flycatcher	O	\mathbf{R}	O		European Starling	U	U	U	U	Golden-crowned Sparrow	\mathbf{X}			\mathbf{X}
Shrikes					Pipits					Dark-eyed Junco	$^{\rm C}$		$^{\rm C}$	$^{\rm C}$
Loggerhead Shrike	\mathbf{C}	U	$^{\rm C}$	$^{\mathrm{C}}$	American Pipit	U		U	\mathbf{C}	McCown's Longspur	O		O	O
Northern Shrike	\mathbf{R}			\mathbf{R}	Sprague's Pipit	\mathbf{R}		U		Chestnut-collared Longspur	$^{\rm C}$		A	\mathbf{C}
Vireos					Waxwings					Cardinals and Allies				
Solitary Vireo	U		U		Cedar Waxwing	U	O	O	O	Northern Cardinal	\mathbf{R}			\mathbf{R}
Warbling Vireo	U	\mathbf{R}	U		Silky Flycatchers					Pyrrhuloxia	O	\mathbf{R}	O	O
Red-eyed Vireo			\mathbf{R}	\mathbf{R}	Phainopepla	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	Rose-breasted Grosbeak	O	\mathbf{R}	O	
Jays and Crows					Wood-Warblers					Black-headed Grosbeak	U	\mathbf{R}	U	
Steller's Jay	\mathbf{R}		\mathbf{R}	\mathbf{R}	Tennessee Warbler	\mathbf{R}				Blue Grosbeak	$^{\rm C}$	$^{\mathrm{C}}$	U	
*Blue Jay	O	O	O	O	Orange-crowned Warbler	U		U	${ m R}$	Lazuli Bunting	U		U	
Western Scrub-Jay	\mathbf{R}		O	O	Nashville Warbler	O				Indigo Bunting	U	O	U	
Pinyon Jay	\mathbf{R}		\mathbf{R}	\mathbf{R}	Virginia's Warbler	0				Painted Bunting	\mathbf{R}		\mathbf{R}	
Clark's Nutcracker			\mathbf{X}	X	Northern Parula	R	\mathbf{R}			Dickcissel	\mathbf{R}	\mathbf{R}	\mathbf{R}	
*Chihuahuan Raven	\mathbf{C}	\mathbf{C}	\mathbf{C}	\mathbf{R}	Yellow Warbler	\mathbf{C}	\mathbf{R}	U		Blackbirds				
Common Raven	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	Chestnut-sided Warbler	X				*Red-winged Blackbird	\mathbf{C}	\mathbf{C}	\mathbf{C}	A
Larks					Cape May Warbler	X				*Eastern Meadowlark	\mathbf{C}	\mathbf{C}	\mathbf{C}	\mathbf{C}
Horned Lark	\mathbf{C}	\mathbf{C}	\mathbf{C}	\mathbf{C}	Black-throated Blue Warbler	R		\mathbf{R}		*Western Meadowlark	\mathbf{C}	\mathbf{C}	\mathbf{C}	\mathbf{C}
Swallows					Yellow-rumped Warbler	A	O	A	O	Yellow-headed Blackbird	U	O	U	O
Purple Martin	\mathbf{R}				Black-throated Gray Warbler	\mathbf{R}		\mathbf{R}		Rusty Blackbird			\mathbf{R}	\mathbf{R}
Tree Swallow	U	U	U		Black-throated Green Warbler	\mathbf{R}		\mathbf{R}		Brewer's Blackbird	\mathbf{C}	\mathbf{R}	\mathbf{C}	A
Violet-green Swallow	Ō				Townsend's Warbler	O	\mathbf{R}	0		Common Grackle	Ü	U	Ü	U
*No. Rough-winged Swallow	\mathbf{C}	\mathbf{C}	$^{\rm C}$	\mathbf{R}	Yellow-throated Warbler	\mathbf{X}		X	X	Great-tailed Grackle	O	O	O	O
Bank Swallow	O	O			Grace's Warbler			X		Bronzed Cowbird	\mathbf{R}		\mathbf{R}	
*Cliff Swallow	C	C	\mathbf{C}		Palm Warbler	\mathbf{X}				*Brown-headed Cowbird	U	U	U	\mathbf{R}
*Barn Swallow	C	Ā	C		Bay-breasted Warbler			X		*Orchard Oriole	R	R		
Chickadees	-		-		Black-and-white Warbler	O	\mathbf{R}	0		Hooded Oriole	X			
Mountain Chickadee	\mathbf{R}		\mathbf{R}	\mathbf{R}	American Redstart	R		Ř		*Bullock's Oriole	C	\mathbf{C}	U	
Bushtits					Prothonotary Warbler	X				Scott's Oriole	X		X	
Common Bushtit	X				Worm-eating Warbler	X				Finches				
Nuthatches					Ovenbird	R				Purple Finch				X
Red-breasted Nuthatch	O		0	R	Northern Waterthrush	0		R		Cassin's Finch	\mathbf{R}		\mathbf{R}	R
White-breasted Nuthatch	R		R	R	Kentucky Warbler	X				*House Finch	C	\mathbf{C}	C	C
Pygmy Nuthatch			10	X	MacGillivray's Warbler	U		U		Red Crossbill	X	Ü	0	0
Creepers					*Common Yellowthroat	C	\mathbf{C}	Ü	R	Pine Siskin	U		U	O
Brown Creeper	О		O	0	Wilson's Warbler	C	R	Ċ		Lesser Goldfinch	Ü		Ü	R
Wrens	O		0	O	Painted Redstart	X	10	O		American Goldfinch	Ü		Ü	U
Cactus Wren	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	Yellow-breasted Chat	U	\mathbf{R}	U		Evening Grosbeak	R		R	R
*Rock Wren	U	U	U	U	Tanagers	C		0		Old World Sparrows	10			
Canyon Wren	R	O	C	R	Hepatic Tanager	R				*House Sparrow	U	U	U	U
Carolina Wren	X			X	Summer Tanager	U	O	\mathbf{R}		House Sparrow	C	C	O	C
Bewick's Wren	U		U	U	Scarlet Tanager	X	Ü							200
House Wren	U		Ü	0	Western Tanager	U	0	U						_00
Winter Wren	J		R	R	Green-tailed Towhee	U	0	U	R					
Sedge Wren			R	R	Spotted Townee	U		U	U					
Marsh Wren	С		C	C	Canyon Towhee	Ö	R	Ö	Ö					
Kinglets	O		O	C	Sparrows	O	10	O	O					
Golden-crowned Kinglet			R	R	*Cassin's Sparrow	C	С	C						
Ruby-crowned Kinglet	С		С	к U	Rufous-crowned Sparrow	C O	C	C O	0					
Gnatcatchers	C		U	U		R		U	0					
	U		U		American Tree Sparrow Chipping Sparrow	K C	С	С	0					
Blue-gray Gnatcatcher Thrushes	U		U			0	C	U	U					
Eastern Bluebird	D			D	Clay-colored Sparrow				U					
	R	ъ	0	R	Brewer's Sparrow	С		С						
*Western Bluebird Mountain Bluebird	0	R	0	0	Field Sparrow	R R		R	R					
	0 D		0		Black-chinned Sparrow			R	TT					
Townsend's Solitaire	R		О	O	Vesper Sparrow	U	~	U	U					
Gray-cheeked Thrush	X		**	D	*Lark Sparrow	С	С	С	R					
Hermit Thrush	U		U	R	Black-throated Sparrow	U	U	U	R					
Wood Thrush	R	^	R	R	Sage Sparrow	U		U	U					
*American Robin	O	O	O	O	Lark Bunting	U	U	С	U					
					Savannah Sparrow	\mathbf{C}		\mathbf{C}	$^{\mathrm{C}}$					
					a 1 ~									
					Grasshopper Sparrow Baird's Sparrow	O R		O R	R X					